WHAT IS CLAIMED IS:

1. A structure for connecting a plurality of I-type prestressed concrete beams (PSC-I beams), each having a sheath pipe therein, to each other, the structure comprising:

an end plate mounted on each of both ends of each of the PSC-I beams, with a through hole provided on an upper portion of the end plate to correspond to the sheath pipe embedded in each of the PSC-I beams;

steel brackets integrally provided on the end plate to be perpendicular to the end plate, so that the steel brackets of the neighboring end plates of the PSC-I beams are aligned with each other while the PSC-I beams are arranged linearly;

bracket coupling plates to integrally couple the aligned steel brackets to each other;

a bottom connecting plate provided on lower ends of the aligned steel brackets to connect the steel brackets to each other;

a connecting sheath pipe provided between the PSC-I beams so that both ends of the connecting sheath pipe are respectively inserted into the through holes of the neighboring end plates of the PSC-I beams while the PSC-I beams are arranged linearly, thereby the sheath pipes of the PSC-I beams are connected to each other;

a prestress strand inserted in the sheath pipes of the PSC-I beams and the connecting sheath pipe while the PSC-I beams are linearly connected to each other, the strand being prestressed in the sheath pipes and the connecting sheath pipe for transfer of prestress force to the PSC-I beams; and

a concrete part filled in a space between the PSC-I beams to embed the aligned steel brackets, the bracket coupling plate and the connecting sheath pipe in the concrete

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part.

2. The structure according to claim 1, further comprising:

longitudinal connecting bolts provided on upper portions of the aligned steel brackets to connect the steel brackets to each other

3. The structure according to claim 1, further comprising:

a support bearing provided on each of a plurality of piers,

wherein the bottom connecting plate is placed on the support bearing, and the lower ends of the aligned steel brackets are mounted to the bottom connecting plate, so that the steel brackets are connected to each other.

4. A method of connecting a plurality of I-type prestressed concrete beams (PSC-I beams), each having a sheath pipe therein, to each other, the method comprising:

mounting an end plate on each of both ends of each of the PSC-I beams, with a through hole provided on an upper portion of the end plate to correspond to the sheath pipe embedded in each of the PSC-I beams;

providing integrally steel brackets on the end plate to be perpendicular to the end plate;

placing the PSC-I beams on a plurality of piers while the steel brackets of the neighboring end plates of the PSC-I beams are aligned with each other on a bottom connecting plate placed on a support bearing mounted on each of the plurality of piers;

mounting the aligned steel brackets of the neighboring end plates of the PSC-I beams to the bottom connecting plate to connect the steel brackets to each other;

mounting a bracket coupling plate to the aligned steel brackets to integrally

couple the aligned steel brackets to each other;

placing a longitudinal connecting bolt on upper portions of the aligned steel brackets to connect the steel brackets to each other;

placing a connecting sheath pipe between the PSC-I beams so that both ends of the connecting sheath pipe are respectively inserted into the through holes of the neighboring end plates of the PSC-I beams while the PSC-I beams are arranged linearly, thereby the sheath pipes are connected to each other;

inserting a prestress strand in the sheath pipes of the PSC-I beams and the connecting sheath pipe while the PSC-I beams are linearly connected to each other, and prestressing the strand for transfer of prestress to the PSC-I beams; and

filling concrete in a space defined between the PSC-I beams to form a concrete part, thus embedding the aligned steel brackets, the bracket coupling plate and the connecting sheath pipe in the concrete part.